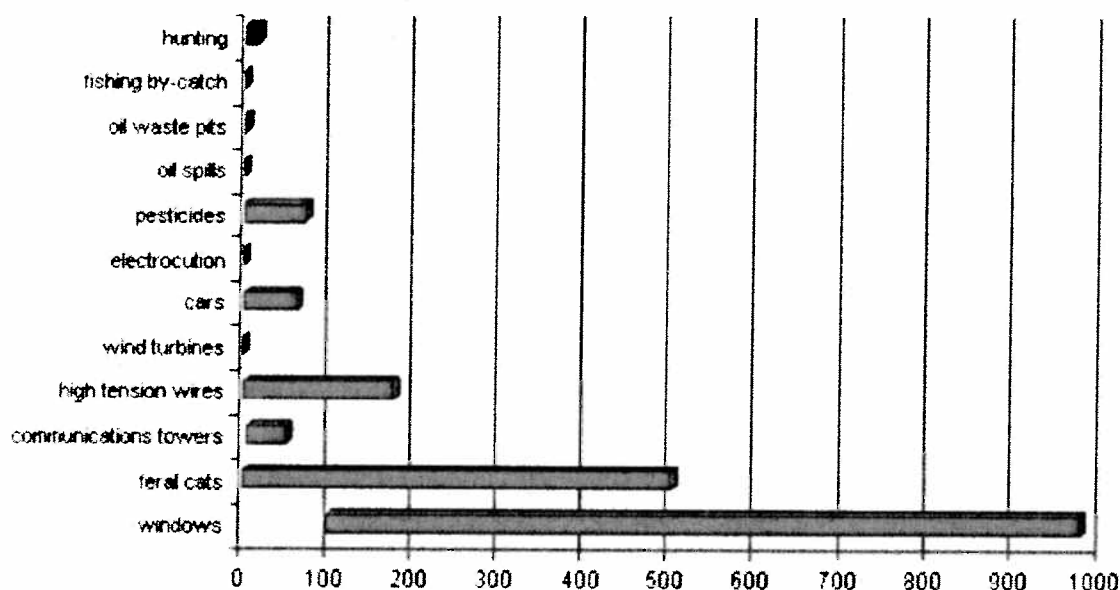


Products Gallery Bird Notes Events Interviews Conservation FAQ

Bird Conservation - Mortality

Estimated Annual Mortality (in millions of birds)



First, it should be stated that the single most significant threat to bird populations is habitat destruction, in all of its forms and with all of its causes. The various causes of mortality outlined below kill individual birds directly, and can certainly have an adverse effect on population size, but can actually have a beneficial effect in some cases. Studies of hunting have documented that in certain cases killing small numbers of birds can *improve* the health and survival of the remaining birds. As long as the habitat is intact, the population has the potential to replace the lost birds.

In simplest terms, habitat destruction reduces the population by reducing the available resources, denying birds the chance to reproduce, and effectively putting a cap on the population size.

The problems outlined below are serious threats and are implicated in the declines of many species. They should be addressed.

Collisions

Window strikes - estimated to kill 97 to 976 million birds/year - Millions of houses and buildings, with their billions of windows, pose a significant threat to birds. Birds see the natural habitat mirrored in the glass and fly directly into the window, causing injury and, in 50% or more of the cases, death. Simple steps can be taken to reduce the number of birds striking windows. Decals that stick to the glass are not very effective, but strips of tape on the outside of the glass, or strings or feathers hanging outside the window, each no more than 10 inches apart, are fairly effective. Decorative features like stained glass designs or window dividers can achieve the same result. Outside screens are very effective both to reduce the reflection and to cushion the impact. In short, anything that reduces or breaks up the window's reflection will reduce bird strikes. Lots of excellent info at FLAP (Fatal Light Awareness Program) ; follow the link to collision prevention and be sure to check out the "CollidEscape" film.

Communication towers - estimates of bird kills are impossible to make because of the lack of data, but totals could easily be over 5 million birds/year, and possibly as many as 50 million. Towers have proliferated in recent years, with an estimated 5000 new towers erected per year during the 1990s, mainly for the cell phone and digital TV industries. Any tall structure will kill birds by collision, and lighted towers attract birds at night. Theoretically cellphone towers are less dangerous than the taller structures, but there is no data either way, and the sheer number of cell phone towers may outweigh any other advantage. More info at FLAP (Fatal Light Awareness Program) and TOWERKILL .

High tension line collisions - may kill up to 174 million birds per year. This figure extrapolates from European studies to the millions of miles of aerial wires in North America. There are very few data in North America.

Electrocutions kill tens of thousands of birds per year. This occurs mainly when large birds such as raptors make contact between a live electrical wire and a ground such as a pole. The relatively small number of birds affected belies the significance of this threat, since species such as Golden Eagle are more susceptible. Large predators like eagles have smaller population sizes and lower reproduction rates than songbirds, so removing a few thousand birds from the population will have a much larger impact than removing the same number of, say, Savannah Sparrows. Studies by HawkWatch International revealed an electrocution rate of just under 1 bird per 100 poles per year, or 547 birds at 74,000 poles in Utah in 2001-2002. About 10% of the birds killed were Golden Eagles, 34% Ravens, and another 25% Buteos (Red-tailed, Swainson's and Ferruginous Hawks). Fortunately PacifiCorp, the owner of the poles, is committed to making changes to reduce electrocutions, and hopefully other regions will follow.

Cars may kill 60 million birds per year. Of over 8 million lane miles of roads in the US, 6.3 million, or over $\frac{3}{4}$, are in rural areas where most birds are presumably killed. There's not much we can do about this source of bird mortality short of changing our driving habits, but landscaping the roadside to discourage birds from congregating there is helpful. My own sense is that small cars with more aerodynamic designs hit fewer birds, while large boxy vans and trucks hit more birds, but I don't think this has been studied. By the way, 100 years ago there were fewer than 250 miles of paved roads in North America, all in urban centers.

Wind turbines may kill 33,000 birds per year, and, as in the case of electrocutions, these birds tend to be large and scarce (e.g. raptors). The recent surge of interest in wind power has heightened concerns about their effect on birds, and has led to at least the discussion of efforts by the wind power industry to design more benign windmills and to choose locations that are less "birdy". It's difficult for an environmentalist to come out against renewable energy like wind turbines, but as long as the electricity generated is considered a "supplement" to satisfy increasing demand, wind power will not really help the fight against global warming. Establishment of wind farms should go hand-in-hand with drastic cuts in electricity use, and there is a real need for more study of the relationship between birds and wind farms.

Hunting - as a point of reference the carefully-managed annual waterfowl hunt kills about 15 million birds a year in North America. This, of course, is balanced by extensive management and conservation efforts so hunting is not a threat to the population of any North American bird, and conservation efforts led by hunters have been hugely beneficial to many species.

Poisoning

Pesticides may kill 72 million birds per year or possibly many more. The sub lethal effects of pesticides may also make the birds more susceptible to predators or unable to reproduce, essentially killing them. A New York study in 2000 found that common "over-the-counter" pesticides were responsible for more bird deaths there than West Nile Virus. More info about pesticides and birds can be found at The American Bird Conservancy, and BIRDSOURCE at Cornell University. The Canadian Wildlife Service maintains a website with information about pesticides at http://www.cws-scf.ec.gc.ca/nwre-cnrf/toxic/what_e.cfm

Oil spills kill hundreds of thousands of birds a year or more. Some of this occurs in dramatic large spills, but most probably occurs in thousands of small incidental spills that are never reported or documented.

Oil and wastewater pits may kill up to 2 million birds per year.

Lead poisoning - kills unknown numbers of birds each year, but Bellrose (many years ago) estimated that about 4% of the waterfowl population dies annually due to lead poisoning, and the California Condor recovery team stated that lead poisoning was the primary cause of the condor population decline over the last 50 years. This lead in the form of bullets and shot and fishing sinkers is ingested by the birds, ground up in the gizzard and absorbed by the body. More info is available from HawkWatch International. Alternative materials are now widely available and should be promoted. In Britain the use of lead fishing sinkers has been banned.

Predation

Domestic and Feral Cats - may kill 500 million birds per year or more. More information can be found at The American Bird Conservancy. Predators, of course, account for the vast majority of bird deaths each year, and most of this predation is natural. Domestic cats are not natural predators, but kill many birds. It is worth noting that house cats have been blamed for the extinction of two species of small mammals in the southeastern United States, and feral cats continue to be a huge problem where they have been introduced on many oceanic islands.

By catch - Tens to hundreds of thousands of seabirds are caught each year in nets and on hooks intended for fish. Although the total number is small this source of mortality is having a profound impact on a few species of birds. See my newspaper column [HERE](#) about long-line fisheries and albatross. The BirdLife International site (an excellent source of global bird conservation information) has detailed information about the albatross declines [here](#).

Disease - Unknown numbers. Disease is a major source of mortality for birds, and may be the underlying cause of death in many cases of predation. Most avian diseases are fairly specific, such as the conjunctivitis eye disease that hit House Finches hard in the eastern states. Botulism can be a serious problem in wetlands where water is drying up. The West Nile Virus has recently caused concern because it affects a wide range of species and has spread rapidly. The Hawaiian Islands have been particularly hard hit by avian disease, and offer a sobering example of the dangers of introduced diseases to naïve local bird populations; detailed info can be found [here](#)

Pollution - Acid rain has been linked to calcium problems.



Contact David

